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SYNOPSIS OF THE NORTH AMERICAN SPECIES OF XYLARIA AND PORONIA.

BY J. B. ELLIS AND B. M. EVERHART.

(Continued from page 102.)

23. XYLARIA CARPOPHILA (Pers.) Obs. Myc., I, 19. On decaying beech nuts. Carolina (Schw. & Rav.), Pennsylvania (Everhart.)

Stroma simple, flexuous, filiform, about one inch high and one millim. thick, round or a little spatulate, flattened or sometimes forked at the apex, white at first, becoming nearly black; fertile club thicker and mostly shorter than the stipe, which is more or less villose; perithecia tuberculose-prominent, much as in *X. filiformis*, apex of the club sterile; asci cylindrical, pedicellate, spore-bearing part about 75 μ long and six μ wide; sporidia obliquely uniseriate, brown, inæquilateral, obtuse, 12—16 x 4—5 μ.

b. Capitulum furcate or divided.

24. XYLARIA CORNU-DAMÆ, Schw. Syn. N. Am., 1,163. On old logs partly buried in the ground. Bethlehem, Pa., (Schw.), Carolina (Ravenel.)

Suberose, quite black, rather stout, subradicate, variously bent, black-flocculose below, compressed and dilated and furcate-branched at the apex, the end of the branches mostly abruptly acuminate, resembling the horns of a deer. In the young plant the upper part is cinereous-squamose, elsewhere covered with an extremely short, black tomentum; perithecia rather large, somewhat prominent; ostiola obtuse, short-cylindrical; sporidia 15—26 μ long, curved and narrow.

The foregoing is taken from Schw. Syn. N. Am. and Saccardo's Sylloge. The specimens in Rav. Car., I, 45, are quite simple (without any branches), linear clavate, 2—3 inches high, stem 1—1½ inches, club 1—1½ inches and about four millim. thick, probably considerably thicker when fresh; perithecia covering the surface of the club, somewhat prominent, three fourths millim.; asci long (150 μ) and narrow; sporidia uniseriate, oblong-fusoid, brown, slightly curved, ends often acute, 15—20 x 4—5 μ. Specimens collected in West Chester, Pa., are some of them simple and undivided like the Carolina specimens, others have the

apices of the clubs divided into 2—3 short branches, and in others again there are two or three distinct clubs arising from the same stem, erect and parallel. The color is at first white, becoming black at maturity. The stem, both in the Carolina and Pennsylvania specimens, is nearly or quite smooth above, but the rooting base is covered with a ferruginous tomentum (which may perhaps have been black in the fresh specimen.)

25. XYLARIA HYPOXYLON (Linn.) Grev. Flor. Ed., p. 355. Nits. Pyr. Germ., p. 5. *Clavaria Hypoxylon*, Linn. Fl. Suec., Ed. II, p. 457. *Sphæria Hypoxylon*, Pers. Obs. Myc. I, p. 20. On decaying wood and bark, common throughout.

Stroma erect, compressed, dilated and variously divided and branched above, more rarely round and simple; stem covered with a black, hersuto-tomentose coat; perithecia ovate-globose, prominent, investing and roughening the upper part of the stroma, but leaving the tips of the branches sterile; asci cylindrical, 8-spored, on oblong pedicels, spore-bearing part 65—75 μ long; sporidia navicular-ellipsoid, inæquilateral, obtuse, 10—12 x 3½—5 μ (12—14 x 5–6 μ, Sacc.) As might be expected in a species having so wide a range, many different forms occur. Around Newfield, where it is very common on decaying stumps, railroad ties and pieces of wood decaying on the ground, it is usually found about one inch high, generally divided a little above the middle into 2—3 somewhat spreading branches. The hymenial surface is at first whitened by the minute, subfusoid conidia. Oftener than otherwise, the plants dry up in this conidial stage and remain permanently white (the tips of the branches having a faint rosy tint) without ever reaching the ascigerous state. The same observation applies to the West Chester specimens, except that they seem to be generally a little larger. A dwarf form has been found at Newfield on an old oak log, in which the stem is only from ½—1 cm. high and the fertile head about 2 x 1 millim., with only a very short, obtusely-pointed, sterile apex. The fruit and other characters are the same as in the usual form. The dwarf form must come very near the variety *cupressiformis*, Pers., if not the same. Specimens from British Columbia, sent by Prof. John Macoun, of the Canadian Geol. and Nat. Hist. survey, are 5—8 cm. high, with the stem distinctly rooting, 2—3 millim. thick and the fertile part flattened and dichotomously divided into 3—6 short (one half cm.), acute lobes or branches; some of the specimens, however, were entirely simple. In all these different forms, there is hardly any appreciable variation in the size or shape of the sporidia, which average about 10 x 4 μ.

26. XYLARIA SUBTERRANEA, Schw. Journ. Acad. Nat. Sci., Phil., Vol. V, tab. 1, fig. 3; Syn. N. Am., No. 1,162.

Stroma filiform (3—6 inches long), simple or branched, dark brown or more or less hirsute-tomentose below, becoming finally nearly smooth; perithecia 250—300 μ in diameter, depressed-globose, with a short, acute ostiolum, investing the upper half of the stroma, except the paler, sterile apex; asci long and narrow, with a slender, pedicellate base (spore-bearing part about 80 μ long); sporidia uniseriate, oblong-navicular or

oblong-fusoid, brown, rather obtuse, slightly curved, 12—14 x 4 μ. The matrix is invested with a slimy membrane, from which the stipes arise and to which their appressed bases are often attached for the distance of an inch or more before beginning their free aerial growth. The thickness of the stroma at the base is 2—3 millim., gradually tapering to the apex except where thickened by the investing layer of perithecia. First found by Dr. Torrey on decaying timbers in the mines in northern New Jersey, and afterwards by Schweinitz, growing from the decaying wood of an old cistern at Bethlehem, Pa. The specimens distributed in N. A. F., 771, were found by Mr. Eugene A. Rau, near the Schweinitzian locality, on an old wooden pump standing in a limestone spring.

27. Xylaria acuta, Pk. 25th Rep. N. Y. State Mus., p. 101.

"Plant gregarious or subcæspitose, 1—1½ in. high; club cylindrical or subfusiform, generally with a sterile, acute apex, blackish-brown, central substance white, with a radiating structure, stem involved in a dense, purplish, mucedinous tomentum, which causes it to appear bulbous; perithecia globose, black; spores uniseriate, elliptical, sometimes slightly curved, colored, .0006—0007 in. long (15—17 μ). On mossy, decaying logs in woods. Greig. September. This species is related to *X. digitata*, from which it differs in its less cæspitose habit and in the character of the stem and central substance. According to Fries, *X. digitata* has a simple, central pith; in this species, the central pith is radiating, as in *X. polymorpha*."

c. *Capitulum subglobose.*

28. Xylaria pedunculata (Dicks.) Fr. Summ. Veg. Scand., p. 382; Nitsch. Pyr. Germ., p. 6; *Sphæria pedunculata*, Dicks., Crypt. Brit., IV, p. 27.

Stroma rather stout, flexuous, dark brown, simple or more rarely sparingly branched, cinereous at first; fertile club thickened, subglobose, roughened by the prominent perithecia, apex acute and sterile; asci cylindrical, briefly pedicellate, 8-spored; sporidia broadly ovate, very obtuse, straight, obliquely uniseriate, dark brown, becoming nearly black, surrounded by a thick, mucose, hyaline coat, 40 x 20 μ. The habit given in Sylloge is on wet ground where manure has lain, in France, Britain and Missouri. The specimens in Plowright's Sphæriacei Britanici, 216 (the only ones we have seen), have the stroma simple, about five millim. high and one millim. thick at the base, attenuated slightly above to the conico-globose head, which is about 1½ millim. high, with a short, mucronate, sterile tip and about 1½ millim. broad; asci (spore-bearing part) 114—125 x 18 μ; sporidia almond-shaped, subhyaline at first, becoming opaque, 18—20 x 15 μ, surrounded at first by a hyaline coat. Plowright's specimens are on rabbit's dung. It will be noticed that the sporidia are exactly like those of a *Sordaria*. The difference between the measurements of the sporidia given in Sylloge (40 x 20 μ) and ours is remarkable. This discrepancy does not seem to be due to the shrinking of the sporidia, which were apparently in their normal state, nor have we ever observed that the sporidia of any of the ascigerous fungi lose much or any of their original size in said specimens.

Since sending off the copy of "Synopsis of Xylaria," we have received from Prof. A. P. Morgan the two following species collected by him at Preston, Ohio, and determined by Dr. M. C. Cooke.

29. XYLARIA CASTOREA, Berk.—Fl. New Zealand, p. 204. The description in Sylloge, I, p. 329, is as follows: Stipe short at first, spongy-velutinous, finally bare, rugose; club obtuse, ovate or subelliptical, much compressed, minutely areolate, roughened by the prominent ostiola; asci narrow; sporidia ovoid-oblong, fulignious, 10 μ long. On rotten wood. New Zealand. Stroma 2—3 cm. high, 12—16 millim. thick. The Ohio specimens are cæspitose and arise from a spongy, sterile base similar to that of *X. corniformis*, only larger. They have the asci (spore-bearing part) 50—55 μ long; sporidia uniseriate, opaque, inæquilateral-elliptical, 8—9 x 4—4½ μ. Judging from these specimens, the only definite characters separating *X. castorea* from *X. corniformis* are the cæspitose growth and compressed clubs of the former. The asci and sporidia are the same in both and the general appearance is similar.

XYLARIA CONOCEPHALA, B. & C.—Journ. Linn. Soc., X, p. 379. The description given is as follows: "Maxima, cæspitosa, e basi obtusa conica, umbrina, rimulosa, exsiccatione hic illic contracta; ostiolis sparsis prominulis; stipite brevi longitudinaliter sulcato-rugoso. On dead wood. Stem one half an inch, head 3½ high, 1 ¼ thick; sporidia cymbiform, .0008—.0006 inch long." In the Ohio specimens, the stroma is cæspitose and branched from the base, dividing into seven or eight elongated-clavate, erect branches, about three inches high and one cm. thick (in the dry state). There is no distinct stem, except the irregular-shaped mass formed by the connate bases of the branching stroma, which is white and spongy within. The perithecia are subovate and nearly one millim. in their longest diameter and extend down on the common base; ostiola large, subconic; asci (spore-bearing part) 100—112 μ long; sporidia uniseriate, navicular, opaque, 20—22 x 5 μ.

PORONIA, Willd. Flor. Berol. Prod., p. 400.

Stroma carnose-suberose, at first clavate or obconic, becoming cup-shaped, stipitate or sessile; perithecia immersed in the upper discoid surface of the stroma, membranaceo-carbonaceous, black; asci cylindrical, 8-spored; sporidia ellipsoid, brown, fimicolous.

1. PORONIA PUNCTATA (Linn.) Fr. Summ. Veg. Scand., p. 382; Nitsch. Pyr. Germ., p. 16; *Peziza punctata*, Linn., Fl. Suec., p. 458; *Sphæria Poronia*, Pers. Syn., p. 15.

Stroma erect, simple, obconic or clavate at first, soon open above and cup-shaped, with the exposed disk white, finally often expanded and flattened, and nearly sessile, ½—1 cm. across; disk at first clothed and whitened by the minute, globose conidia, finally black-punctate from the projecting black ostiola of the subjacent perithecia; asci cylindrical, briefly pedicellate, 125—150 x 16—18 μ; sporidia uniseriate, elliptical, with the ends rounded or more or less acute, surrounded at first with a hyaline coat, soon brown or opaque, 17—25 x 10—14 μ. We have fine specimens of this species from Prof. F. W. Cragin, of Topeka, Kansas, and also specimens from Colorado, communicated by Mr. E. A. Rau. Habitat on horse dung.

2. Poronia Oedipus, Mont. Syll. Plant Crypt., p. 209; Nits. Pyr. Germ., p. 20. On dung. Alabama (Peters), Texas (C. Wright).

Stroma simple or branched, erect, dark brown, becoming glabrous, striate when dry, clavate-thickened at the base and attenuated above to the apex, which is expanded into a cup-shaped disk, black externally, white within and black-punctate from the projecting ostiola, as in the preceeding species; asci subcylindrical, very briefly pedicellate, 8-spored, 120 x 24 μ, pseudoparaphyses very long, stout, filiform, septate; sporidia uniseriate or subbiseriate, ovate, straight, dark, surrounded by a thick, hyaline coat at first, 28—30 x 16 μ. Specimens collected in Cuba by Wright and sent us by Prof. Farlow have the stems subconnate at base, about three cm. high and two millim. thick at base, the terminal disk about three millim. broad.

ADDITIONS TO HYPOCREACEÆ.

BY J. B. ELLIS AND B. M. EVERHART.

Cordyceps Sphingum, Tul.—Sel. Carp. III, p. 12. (*Isaria Sphingum*, Schw., Syn. Car., 1298 [conidia.]) On a dead larva in its cocoon, attached to a rotten limb lying on the ground in the swamp. Newfield, N. J., Aug. 7, 1887. Stromata numerous, about thirty in the single specimen found, thread-like, about five cm. high and rather less than one millim. thick, cinereous, nearly smooth and glabrous or slightly white-farinose-tomentose, bulbous at the base and more or less undulate and bent, especially below and within the cocoon, which they seem to have penetrated with some difficulty; perithecia superficial, cylindric-conic, 200—225 μ high, 125—150 μ thick, rounded above, chestnut color; ostiolum not prominent; asci linear-lanceolate, 150—200 x 6—7 μ when young with a depressed, conical tip about four μ wide; sporidia filiform, nucleate, about as long as the asci and about two μ wide, probably finally separating into joints or segments. The larva from which the fungus grows is about three cm. long and one half cm. thick, and the stipes or stromata arise from all the segments of the body. Some of the stromata were sparingly branched above.

[In Tulasne's figure the fungus is represented as growing from the perfect insect, and the perithecia are said to be of a pale red color ("pallide rubentia"). From these and other considerations, I was at first inclined to consider this as a new species, but my colleague, Mr. Everhart, having carefully examined the specimen, assured me that it could not be specifically distinct, and I am now convinced that he is right.—J. B. E.]

Cordyceps herculea, Schw.—A fine specimen of this species has been sent from Ohio by Prof. A. P. Morgan. When fresh it was about three inches high and half an inch thick, growing from some dead larva of considerable size. The fertile head, which occupies about an inch of the upper part of the stem, leaving a short, rather obtuse, sterile tip, is of a light yellow color and roughened by the somewhat prominent,

closely-packed perithecia, which are about 150 μ in diameter, with slightly prominent ostiola, of a pale, radiate-fibrous structure; asci 200—225 x 6—7 μ, gradually attenuated to the base and containing eight filiform sporidia which separate into joints 6—8 x ¾—1 μ, with the ends slightly swollen.

NOTE.—In the description of *Cordyceps militaris*, on page 30, Vol. II, of this JOURNAL, the sporidia are said to break up into joints ½—¾ μ long—it should be 2—3 μ long. The sporidia are seen to best advantage while the specimen is drying, when they are discharged copiously, so that the clavate head appears to be enveloped in a white mold.

In the synopsis of *Hypocreaceæ* the following species was omitted:

CORDYCEPS INSIGNIS, Cke. & Rav.—Grev. XII, p. 38. On dead larvæ buried in the ground. Seaboard of South Carolina. Ravenel, 3251. "Livido-purpurea; stipite recto (3—4 cm.), pallido, sulcato, æquali; capitulo subgloboso, ovatove, e peritheciis leniter asperulo; peritheciis minimis, confertis, ovatis; ostiolo punctiformi, obscuriore; ascis cylindraceis, longissimis (.6 millim.), dissilientibus. Somewhat resembles *C. Entomorrhiza*, but is larger and more robust; stem about 4—5 millim. thick and longitudinally sulcate; capitulum 1½ cm. long and one cm. broad, livid purple. In many respects it reminds us of *Cordyceps capitata*."

HYPOCREA SUBCARNEA, E. & E., n. s.—On dead limbs of *Lonicera* (Cult.) Newfield, N. J., May, 1887. Stroma effused, thin, cracked, dirty flesh color, much resembling *Corticum scutellare*, B. & C. Perithecia carnose, pale, minute (80 μ), buried in the stroma and barely visible under the lens as minute specks, giving the stroma a punctate appearance; asci subcylindrical, sessile, without paraphyses, 30—35 x 5—7 μ; sporidia uniseriate or partly biseriate above, subhyaline (with a yellowish tint), oblong-elliptical, 1—2-nucleate, 3½—4½ x 2—2½ μ. Outwardly this scarcely differs from *H. corticiicola*, E. & E., except in the flesh-colored tint of the stroma, but the sporidia are very different, much like those of *H. consimilis*, Ell., from which, however, it is quite distinct. This species is evidently a close ally of *H. corticiicola*, E. & E., and *H. hypomycella*, Sacc., but, applying the carpological classification, it would be placed in another genus and in a different section.

HYPOMYCES GEOGLOSSI, E. & E.—JOURN. MYCOL., II, p. 73. This has been found again near the original locality, not on *G. glabrum*, but on *G. hirsutum*, Pers., and from the fresh specimens the following notes were taken: The affected plants are more rigid and the stem is considerably enlarged, for the parasite not only occupies the hymenium but extends down on the stem nearly to the base, giving the whole a slightly rufous or pale liver-colored hue. The fresh perithecia, which are very soft, are 100—150 μ in diameter, depressed-globose and can hardly be said to be immersed, but form a compact layer on the hairy coat of the host without penetrating to any appreciable extent into its substance. The asci are clavate-oblong, 35—40 x 6—7 μ, sessile and without paraphyses; sporidia, as before, clavate-oblong, mostly two-nucleate and 7—10 x 2½—3 μ, hyaline. The measurement of the asci, as originally published, is

erroneous. The correct measurement is as here given and is the same as marked on the original package. This differs from the ordinary type of *Hypomyces* in the absence of any distinct subiculum.

Hypomyces aurantius (Pers.)—Specimens of this species were found associated with *H. polyporinus*, Pk., at Newfield, N. J., about the first of July, 1887, on old *Polyporus versicolor*, Fr., on a decaying oak log. From the fact that the two species occurred often on the same specimen of *Polyporus*, the suspicion arose that *H. polyporinus* might be only the earlier stage of growth of *H. aurantius*, but a careful comparison showed that this could hardly be the case. The perithecia of *H. aurantius* are larger (one fourth millim.) and, though somewhat pale at first, soon assume a deep orange tint; the mycelium also, which at first stains the matrix light yellow, soon assumes the same color as the perithecia. The asci, which are narrow-cylindrical, are about 100 x 4 μ and the uniseriate, partly overlapping, fusoid sporidia are 16—24 x 4—5 μ, with a short acumination at each end and the endochrome more or less distinctly divided in the middle. The specimens agree well with those received from Dr. Plowright, but the perithecia are rather more pointed above than represented in his figure in Grevillea, pl. 150. The conidial stage, *Diplocladium minus*, Bon., was found associated with the ascigerous specimens. *H. polyporinus*, Pk., has the perithecia smaller (150 μ) and paler, becoming finally of a pale apricot color. The mycelium also, though occasionally of a pale yellow color at first, never assumes the deep orange tint seen in *H. aurantius*. The sporidia of *H. polyporinus* are of the same shape as those of *H. aurantius* but smaller, mostly about 15 x 3 μ. In both, the perithecia are distinctly ovate, though in *H. aurantius* they are quite obtuse when young. This last-named species has also been found at Vermilion Lake, Minnesota, by Mr. E. W. D. Holway.

Hypomyces chlorinus, Tul. (?)—Sel. Carp., III, 59. Parasitic on the mouths of the tubes of some small *Boletus*. Newfield, N. J., Aug. 16, 1887. Mycelium white cottony, much branched, forming a thin, white coat over the entire surface of the host; conidia golden yellow (under the microscope), large, 25—35 x 12—15 μ, narrow-elliptical or oblong, marked with several longitudinal grooves or striæ and borne singly at the ends of the branches of the mycelium. These conidia resemble somewhat an old fashioned, long musk melon or an ear of Indian corn; perithecia globose, minute (112—120 μ), forming a continuous layer over the tubes of the *Boletus* and extending down the stem, nearly hyaline at first, finally light yellow, scarcely projecting above the mycelial layer in which they are bedded, presenting very much the appearance of *Hypocrea citrina;* asci cylindrical, about 65 x 3 μ; sporidia uniseriate, hyaline, ovate, one-septate, constricted at the septum, 7—9 x 2½—3 μ, ends rounded. Whether the conidial stage noted by Tulasne really belongs here is uncertain. The "microconidia" he speaks of, we do not find, nor do we notice any green color, but the "macroconidia" above noted agree well in size and shape with those described by him, and the habitat (*Boletus subtomentosus*, apparently) makes it somewhat probable that the reference of our *Hypomyces* to *H. chlorinus* may be correct.

ACROSPERMUM RAVENELII, B. & C.—Having recently received from Mr. B. T. Galloway good specimens of this species on dead leaves of *Cercis Canadensis*, collected in Boone county, Mo., June, 1887, we can add to the brief description on p. 5 of the current volume the following notes and measurements:

Perithecia clavate-cylindrical, cinereous black, of fibrous texture, contracted a little above the base and rather obtuse at the apex, 300—350 μ high and 70—80 μ thick; asci about 200 x 3 μ, containing eight filiform, continuous, yellowish hyaline sporidia nearly as long as the asci. Quite different from *A. foliicolum*, B. & C., which has longer, liver-colored or chestnut-colored perithecia.

NECTRIA RUBEFACIENS, E. & E., n. s.—Parasitic on thallus of some lichen on various dead limbs lying on the ground. Newfield, N. J. Perithecia globose, 80 μ in diameter, smooth, or roughened with scattered, rudimentary, glandular-like hairs, subastomous, of fine cellular texture, pallid at first, becoming orange-red; asci broad clavate, 35—40 x 10—12 μ, without paraphyses; sporidia irregularly crowded, oblong-cylindrical, hyaline, uniseptate and constricted at the septum, distinctly curved, 14—18 x 2½—3 μ. The thallus of the lichen (*Parmelia tiliacea* [?]) turns dull red (bright red inside). The perithecia are scattered and superficial. This species has been observed now for the past eight years and seems to be quite distinct from any of the other lichenicolous species.

NEW SPECIES OF FUNGI FROM VARIOUS LOCALITIES.

BY J. B. ELLIS AND B. M. EVERHART.

DIATRYPELLA PUSTULATA, E. & E.—On dead twig of *Lonicera* (Cult.) Newfield, N. J., May, 1887. Stromata tuberculiform-pustulate, gregarious, white inside, sometimes confluent, but mostly standing singly, closely covered by the blackened epidermis, which is not ruptured but merely pierced by the short, stout, cylindrical ostiola, which are mostly about four-stellate cleft at the tips; perithecia few in a stroma (1—4), quite often only one, globose, ½—⅔ millim. in diameter; asci rounded above, contracted below into a slender base; sporidia allantoid, yellowish-hyaline, 5—8 x 1½ μ. The part of the branch occupied by the fungus is deeply penetrated by a black, circumscribing line. This is certainly closely allied to *D. Tocciæana*, DeNot., which also has the stroma closely covered by the epidermis and which this also resembles in other respects, but differs from that species and its allies in its prominent ostiola, which, when fully developed, are one fifth to one third millim. high. The bases of the perithecia penetrate the wood, but when the bark becomes loosened they remain attached to it and fall away with it, leaving the surface of the wood pitted with cup-shaped cavities.

Sphæria (Amphisphæria) Oronoensis, E. & E.—Perithecia scattered, subcarbonaceous, black, roughish, subsuperficial, the base only slightly sunk in the wood, small (about one sixth millim.), globose or slightly depressed-globose; ostiolum papilliform; asci linear, 75 x 5 μ (spore-bearing part about 50 μ long), surrounded with abundant paraphyses; sporidia uniseriate, oblong elliptic, brown, uniseptate but not constricted, 6—8 x 2½—3 μ, cells equal or the lower one a little narrower. On rotten wood. Orono, Maine, November, 1886. Prof. F. L. Harvey, No. 57. Apparently near *Sphæria sardoa*, DeNot.

Lasiosphæria subvelutina, E. & E.—On rotten magnolia wood. Newfield, June 26, 1887. Perithecia superficial, black, conico-hemispherical, 150—200 μ in diameter, sparingly clothed with spreading, straight, sparingly septate, rather obtuse, black hairs, subdiaphanous above, 100—150 x 4—5 μ; asci clavate-cylindrical, about 150 x 12 μ, without paraphyses; sporidia fusoid, hyaline, biseriate, slightly curved, ends rather obtuse, granular, becoming 3—5-septate, 22—30 x 4—4½ μ. Closely allied to *S. atrobarba*, C. & E., but hairs of perithecia longer and of equal diameter throughout and sporidia fusoid and hyaline. The surface of the wood itself, in both these species, is thinly clothed with hairs similar to those growing on the perithecia. The sporidia are much like those of *S. atriella*, C. & E., but that species has larger, subdepressed perithecia without hairs of any kind.

Leptosphæria anomala, E. & E.—On dead herbaceous stems. Scofield, Utah, June, 1887. S. J. Harkness. Perithecia gregarious, membranaceous and of rather coarse, cellular structure, about one third millim., black, smooth, subspherical, at length slightly collapsing above, at first covered by the epidermis, finally erumpent; asci oblong-cylindrical, about 100 x 20 μ, subsessile, with evanescent, filiform paraphyses; sporidia biseriate, broad, oblong-fusoid, one-septate, inæquilateral and slightly curved, pale, straw yellow, constricted at the septum, 30—35 x 10—12 μ, ends obtuse. This has all the essential characters of *Leptosphæria* except the one-septate sporidia. On the same stems is found the following, which is apparently its conidial stage and may indicate a relationship with the *Hypocreaceæ*.

Cylindrocolla diffluens, E. & E.—On dead herbaceous stems. Scofield, Utah, June, 1887. S. J. Harkness. Sporodochia flesh-colored (orange when dry), appressed, marginless, appearing to the naked eye as mere orange-colored blotches about one millim. in diameter, at first subtuberculose; conidia oblong or cylindrical, varying in length from 4—12 μ and about 1½ μ wide, hyaline and continuous, concatenate, the chains of conidia branching in a tree-like manner and separating entirely quite to the base, without any distinct sporophores, as in *C. Urticæ*, which this in other respects much resembles.

Ophiobolus hamasporus, E. & E.—On fallen leaves of *Quercus tinctoria* (?). Manhattan, Ks., July, 1887. W. T. Swingle. Perithecia scattered, globose, membranaceo-carbonaceous, ¼—⅓ millim. in diameter, black, buried in the substance of the leaf except the convex-flattened

apex, leaf sometimes blackened around the perithecia, indicating the presence of an imperfect stroma; asci 70 x 8—10 μ, narrowed above but obtuse; paraphyses (?); sporidia eight in an ascus, filiform, multinucleate, yellowish-hyaline, 30—35 x 1½ μ, narrowed to a point below and about one third of the lower part bent almost to a right angle or even curved into a hook (*i. e.*, after the sporidia have escaped from the asci). The general aspect is that of *Didymosphæria cupula*, Ell., only the perithecia are not collapsed. The ostiolum is indistinctly papillæform.

LOPHIOSTOMA (LOPHIOTREMA) ÆQUIVOCUM, E. & E.—On decorticated wood of some deciduous tree. British Columbia, May, 1887. Prof. John Macoun. Perithecia gregarious, erumpent-superficial, black, nearly smooth, depressed-conic or subglobose, about one third millim. in diameter; ostiolum subconic, slightly compressed; asci subcylindrical, about 80 x 5 μ, narrowed below into a short, stipitate base; paraphyses filiform; sporidia one-seriate, oblong-fusoid, subobtuse, yellowish-hyaline, three-septate and constricted at the middle septum, sometimes also at the other two, 12—14 x 3—3½ μ. The ostiolum varies considerably, being sometimes distinctly compressed, sometimes regularly conical and occasionally imperfectly radiately three-cleft.

SORDARIA LUTEA, E. & E.—On rotten wood (Maple and Kalmia) in swampy woods. Newfield, N. J., November, 1879, and August, 1887. Perithecia gregarious, one half millim. in diameter, membranaceous, conic-globose, covered, except the papillose-conic, black ostiolum, with a dense, light yellow tomentum composed of branching, slightly roughened hairs; asci lanceolate, rounded and perforated at the apex, 190—130 x 15 μ; sporidia at first vermiform and greenish-yellow, finally almond-shaped and opaque, with a cylindrical, curved appendage 30—35 x 4 μ attached to its base. Very rarely in the young sporidium there is also a short, slender appendage at the apex. The asci are very evanescent. The yellow coat also turns black at maturity. A closely allied species, with sporidia 22—25 x 12—15 μ, has been met with on dead herbaceous stems, but we have not sufficient material to give a full description.

(To be continued.)

MELANCONIS DASYCARPA, E. & K.

JOURN. MYCOL., II, p. 3. I strongly suspect that this species is not distinct from *M. Everhartii*, Ell. The only real distinctive character is the appendiculate sporidia in the first named species. When *M. Everhartii* was published, it was supposed to have sporidia without appendages, but a re-examination of the few original specimens still in my possession shows that the sporidia are at first appendiculate, but the appendages are soon absorbed. This is also the case with *M. dasycarpa*. The West Chester specimens (N. A. F., 1565) were well matured, so that the appendages were overlooked. If my observations are now correct, *M. dasycarpa*, E. & K., is only a synonym of *M. Everhartii*, Ell. The correctness of this may be verified or refuted by an examination of the specimens in N. A. F., Nos. 1561 and 1565. J. B. E.

NEW LITERATURE.

BY W. A. KELLERMAN.

"New Australian Fungi." By M. C. Cooke. Grevillea, September, 1887.

"New British Fungi." By M. C. Cooke. l. c.

"British Pyrenomycetes." By G. Massee. l. c.

"Two Remarkable Fungi: Cerebella paspali, Cke. & Mass., and Hemiarcyria applanata, Cke. & Mass." By M. C. Cooke. l. c.

"Rehm: Ascomyceten." Fasc., XVIII. Hedwigia, Mai and Juni, 1887.

"Bemerkungen ueber einige in den letzten Jahren beschriebene Myxomyceten." Von M. Riciborski in Krakan. l. c.

"Fungi aliquot novi in Turkestania." A Dre. Walther lecti: Auctore. P. A. Karsten. l. c.

"Fungi of the Pacific Coast, V." By H. W. Harkness, M. D. Extract from Bulletin of the California Academy of Sciences.

"Polyporus sanguineus." By P. H. Dudley. Journal of the New York Microscopical Society, July, 1887.

"Chamæcyparis sphæroidea, Spach. (White Cedar), and its Fungus, Agaricus Campanella, Batsch." By P. H. Dudley. l. c.

"H. W. Ravenel—Notice of Death." By W. G. Farlow. Botanical Gazette, August, 1887.

Besides an outline of his life, a list of his botanical publications is given. They were mostly in phenogamic botany, but his work in the cryptogams, especially fungi, was most valuable.

"A New Fungus Disease of the Vine." By F. L. Scribner and Pierre Viala. Agricultural Science, September, 1887.

The fungus in question has been named *Greeneria fuligínea*, is both saprophytic and parasitic, and has been very destructive to the berries at Tokay, near Fayetteville, N. C. It was not observed upon the leaves. Pustules are formed just beneath the epidermis; have no ostiola; size when mature, 17 μ to 25 μ; the basidia fill the interior, then rupture the pustules expand over the surface and bear the conidia. The latter are 0 μ .954 to 1 μ .213, of a ferruginous color.

ERRATA.

In Vol. II, p. 78, seventh line from the bottom, and on p. 105 of the current volume, sixteenth line from the bottom, for "see" read "sec," which is the abbreviation of the latin word "secundum," meaning "according to."

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Index to Described Species.